Notice of Allowability	Application No.	Applicant(s)	
	10/664,614	RYKEN ET AL.	
	Examiner	Art Unit	
	Hoang V Nguyen	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *application filed on 19 September 2003*.

2. ☒ The allowed claim(s) is/are *1-20*.

3. ☒ The drawings filed on *19 September 2003* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

HOANG V. NGUYEN
PRIMARY EXAMINER

Allowable Subject Matter

1. Claims 1-20 are allowed.

2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, Channabasappa et al (US 2004/0090368 A1) discloses a microstrip antenna array comprising a dielectric layer; a plurality of rectangular shaped antenna elements mounted on the upper surface of the dielectric layer, the antenna elements being aligned with one another; an antenna feed network mounted on the substrate for connecting each of the antenna elements to an antenna feed network input terminal; and a ground plane affixed to a bottom surface of the dielectric layer. Channabasappa, however, fails to further teach a copper cross hatch pattern mounted on the upper surface of the dielectric layer around the periphery for each of the antenna elements wherein a gap forms between first, second and third edges of the periphery of each of the antenna elements and the copper cross hatch pattern; a band stop filter integrally formed with the antenna feed network on the bottom surface of the dielectric layer, the band stop filter providing for a minimum band-stop rejection of 60 decibels to isolate the RF carrier signals containing telemetry data from L-band radio frequency signals containing GPS data; and a second dielectric layer positioned below the first dielectric layer in alignment with the first dielectric layer.

Claims 2-9 are allowed for depending on claim 1.

Regarding claim 10, Channabasappa et al discloses a microstrip antenna array comprising a dielectric layer; a plurality of rectangular shaped antenna elements mounted on the upper surface of the dielectric layer, the antenna elements being aligned with one another; an antenna

feed network mounted on the substrate for connecting each of the antenna elements to an antenna feed network input terminal; and a ground plane affixed to a bottom surface of the dielectric layer. Channabasappa, however, fails to further teach a copper cross hatch pattern mounted on the upper surface of the dielectric layer around the periphery for each of the antenna elements wherein a gap forms between first, second and third edges of the periphery of each of the antenna elements and the copper cross hatch pattern; a band stop filter integrally formed with the antenna feed network on the bottom surface of the dielectric layer, the band stop filter including a plurality of etched copper open circuit stubs connected to the main transmission line, the band stop filter providing for a minimum band-stop rejection of 60 decibels to isolate the RF carrier signals containing telemetry data from L-band radio frequency signals containing GPS data; and a second dielectric layer positioned below the first dielectric layer in alignment with the first dielectric layer.

Claims 11-16 are allowed for depending on claim 10.

Regarding claim 17, Channabasappa et al discloses a microstrip antenna array comprising a first dielectric layer; eight rectangular shaped antenna elements mounted on the upper surface of the dielectric layer, the antenna elements being aligned with one another; an antenna feed network mounted on the substrate for connecting each of the eight antenna elements to an antenna feed network input terminal; and a ground plane. Channabasappa, however, fails to further teach a copper cross hatch pattern mounted on the upper surface of the dielectric layer around the periphery for each of the eight antenna elements wherein a gap forms between first, second and third edges of the periphery of each of the antenna elements and the copper cross hatch pattern; a band stop filter integrally formed with the antenna feed network on the bottom

surface of the dielectric layer, the band stop filter including six L-shaped etched copper open circuit stubs connected to the main transmission line; the band stop filter providing for a minimum band-stop rejection of 60 decibels to isolate the RF carrier signals containing telemetry data from L-band radio frequency signals containing GPS data; a second dielectric layer positioned below the first dielectric layer in alignment with the first dielectric layer; and a third dielectric layer positioned above the first dielectric layer in alignment with the first dielectric layer; wherein the ground plane being affixed to a bottom surface of the second dielectric layer.

Claims 18-20 are allowed for depending on claim 17.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2004/002291 A1 discloses a stacked antenna array.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang V Nguyen whose telephone number is (571) 272-1825. The examiner can normally be reached on Mondays-Fridays from 9:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hvn
11/10/04

HOANG V. NGUYEN
PRIMARY EXAMINER